

14/PPTS^r

DT09 Rec'd PCT/PTO 03 SEP 2004

DESCRIPTION

This application is a-371 of
MAGNETIC MEMORY DEVICE 1 PCT / JP03 / 16341 12/19/2003

~~THN PCT/PTO~~

5 Technical Field

The present invention relates to a magnetic memory device constructed as a magnetic random access memory (MRAM) or a so-called non-volatile MRAM (Magnetic Random Access Memory) which is comprised of memory elements made by laminating a magnetization pinned layer in which the orientation of magnetization is fixed and a magnetic layer in which the orientation of magnetization is changeable, or to any magnetic memory device comprising memory elements having a magnetic layer capable of being magnetized.

15

Background Art

With a rapid prevalence of information communication equipment, in particular, of personal compact equipment such as portable terminals, a further improvement in performance inclusive of larger scale integration, faster speed, lower power consumption or the like is demanded for their elements such as memories, logics and the like.

In particular, the non-volatile memory is considered to be indispensable in the age of ubiquitous. If a power supply is exhausted or a power trouble occurs, or even if a connection between the server and the network is cut off by any failure, the non-volatile memory can protect important information including personal information. Further, although recent portable equipment is designed to hold unnecessary circuitry blocks in a standby state in order to suppress power consumption as much as possible, if a

25
30